Fujitsu is offering an embedded fingerprint solution - a stand-alone fingerprint authentication system with built-in Fujitsu MCU. The MDFP200-EDK integrates fingerprint capturing, processing, verification and storage into one system. In addition to the hardware, the user will receive a development environment including fingerprint algorithm libraries.

With this development kit, Fujitsu offers customers a development tool, as well as a sample hardware design for reference. Coming with a complete bill of material, this solution will enable users to save development costs and ensure faster time-to-market for their products.

**Features & Advantages**

- All-in-one solution, saving development cost and time
- Fujitsu's capacitive fingerprint sensor ensures stable operation independent of lighting conditions and temperature
- Efficient fingerprint matching algorithm, requiring low process power and small storage space for templates
- Short matching time achieved, allowing a fast and convenient authentication

**System Specifications**

- Authentication time for 1:1 matching
  - 1 second
- Template size per finger
  - Approx. 200Bytes
- Fingerprint storage capacity
  - 100 templates on module
  - Can be extended using an external database
- Fingerprint sensor
  - MBF200: 500dpi resolution
- Power Supply
  - Variable 5V-12V
- Power consumption
  - Operating mode = Typ 1000mW
- Hardware interface
  - RS-232
- Operating temperature - 0-70°C

**EDK Contents**

- MDFP200 EDK module stack
- Adjustable Power Supply 3-12V
- Two 9-pole SUB-D interface cables
- User manual including all schematics of the complete sample design and bill of material
- Software CD with complete documentations
Technical Details

Hardware
- Fujitsu’s CMOS solid-state single-touch fingerprint sensor MBF200
  - 500dpi resolution
  - 256x300 pixel array
  - Rugged super thin design (0.14cm)
- Fujitsu FR series 32bit RISC Processor MB91302
  - With built-in hardware multiplier and barrel shifter, 4KB of internal instruction cache
  - 68MHz internal operating frequency max
  - 3 UART interfaces, several GPIOs and 2 I²C interfaces
  - 3 reload timers, 4 input capture channels, 4 PPG timers and a watchdog timer
  - 5 channel DMA controller, 16 level interrupt controller, 4 channels of 10-bit ADC
  - Power saving mode (stop mode and sleep mode)
  - 144-pin QFP package
- On board memories: 8 MB SDRAM and 2 MB Flash

Application Software
- Fingerprint sensor driver library for capturing images, setup and control
- IKENDI’s minutia based software library as fingerprint matching engine
  - Can be licensed directly from IKENDI
  - Code size approx. 100kByte
  - Proprietary template format allowing various kinds of system architecture
    - Host matching possible
    - Match on card possible on demand
- Flash utilities to download new applications and boot monitor
- Low memory consumption
  - 10% of on board memory is used

Software Design Tool
- Fujitsu Softune Workbench for the platform development
  - Complete tool chain, compiler, assembler and linker, after online registration

Interface
- 2 RS-232 9-pin serial port access for downloading, debugging and user application
- Relay: max 125V AC, max 28VA, max 1A
- Buzzer for acoustic signalisation
- LEDs used to display results of the fingerprint enrolment and verification process
- Switch buttons to change between Enrol and Verify, demo and development modes

Applications
- Point Of Sales
- Access Control
- Identification systems for public safety
- Computer and Network
- Time Attendance Management